CLAIMS:

1. An image processing system for generating at least one output image associated with an output viewpoint from an input image associated with an input viewpoint through a depth-dependent transformation; the images being represented as an input pixel array and an output pixel array, respectively; the image processing system comprising:

- an input for receiving the input image and a hidden image, the input image being a pre-filtered 2D representation of 3D objects as seen from the input viewpoint, and comprising for each input pixel an associated input pixel value and an associated input pixel depth, the hidden image being another 2D representation of the 3D objects and comprising information, which information is at least partly occluded from the input viewpoint;
- a video processor being operative to create output pixels of the output image by:
- transforming each input pixel to a transformed input pixel, associated with the output viewpoint, as a function of the input pixel depth;
- creating the output image based on the transformed input pixels, using hidden image pixels for filling de-occluded areas and for at least one pixel position adjacent to the de-occluded areas for preventing ghost line artifacts, caused by transformation of the pre-filtered input image; and
- an output for providing the output image for subsequent rendering.

2. An image processing system as claimed in claim 1, wherein the depth-dependent transformation is a transformation from the input viewpoint to a predetermined output viewpoint and wherein the hidden image is associated with the output viewpoint.

3. An image processing system as claimed in claim 1, wherein the hidden image is associated with the input viewpoint and the hidden image pixels are associated with a hidden image pixel value and a hidden image pixel depth, the video processor being operative to:

- transform each hidden image pixel to a transformed hidden image pixel, associated with the output viewpoint, as a function of the hidden image pixel depth; and

- create the output image using transformed hidden image pixels for filling de-occluded areas and for at least one pixel position adjacent to the de-occluded areas.

4. An image processing system as claimed in claim 1, wherein rows of pixels of the pixel arrays are used for horizontal display on successive display lines and the video processor is operative to sequentially process input pixels per row.

5. An image processing system as claimed in claim 4, further comprising pixel selection means for sequentially selecting input pixels per row, selecting
a hidden image pixel for:
- pixel positions in a de-occluded area;
- a first number of pixel positions before the de-occluded area; and
- a second number of pixel positions after the de-occluded area,
the first number and/or the second number being greater than zero; and
transformed input pixels for other pixel positions on the display line.

6. An image processing system as claimed in claim 5, wherein the first and/or second number of pixel positions is dependent on a width of a horizontal pre-filter, used during recording of the input image.

7. An image processing system as claimed in claim 5, wherein the first and/or second number of pixel positions is received at the input as additional information about the input image.

8. An image processing system as claimed in claim 5, wherein the first and/or second number of pixel positions is determined based on an analysis of the input image.

9. An image processing system as claimed in claim 5, each input pixel being indicated by an x-coordinate and an y-coordinate, the video processor being operative to sequentially process input pixels of a row in a direction opposite to a displacement from the input viewpoint to the output viewpoint along the x-axis; the processing including:
- maintaining an x-coordinate extent that indicates for already processed input pixels with respect to a predetermined start position a furthest x-coordinate already occluded by at least one transformed input pixel, where the furthest x-coordinate is a highest x-

coordinate if the processing direction is from left to right and a lowest x-coordinate if the processing direction is from right to left;

- maintaining a look ahead extent for determining ahead of the x-coordinate extent that a hidden image pixel is de-occluded if a transformed input pixel increases the look ahead extent by more than a predetermined threshold for enabling the pixel selection means to select a hidden image pixel for the first number of pixel positions before the position of the de-occluded area.

10. An image processing system as claimed in claims 3 and 9, wherein the video processor is operative to maintain a hidden image x-coordinate extent for indicating for already processed hidden image pixels with respect to a predetermined start position a furthest x-coordinate already occluded by at least one transformed hidden image pixel, where the furthest x-coordinate is a highest x-coordinate if the processing direction is from left to right and a lowest x-coordinate if the processing direction is from right to left.

11. An image processing system as claimed in claim 9 or 10 wherein the look ahead extent is a number of pixels ahead of the x-coordinate extent, which number is equal to a number of transformed hidden image pixels to be inserted before the position of the de-occluded area.

12. An image processing system as claimed in claim 1, wherein the input is arranged for receiving at least one additional hidden image, the additional hidden image comprising information, which information is at least partly hidden by objects in other hidden images and the video processor being operative to create output pixels of the output image dependent on the depth dependent transformation, the input image, the hidden image and the at least one additional hidden image.

13. A method for generating at least one output image associated with an output viewpoint from an input image associated with an input viewpoint through a depth-dependent transformation; the images being represented as an input pixel array and an output pixel array, respectively; the method comprising:

- receiving the input image and a hidden image, the input image being a pre-filtered 2D representation of 3D objects as seen from the input viewpoint, and comprising for each input pixel an associated input pixel value and an associated input pixel depth, the

hidden image being another 2D representation of the 3D objects and comprising information, which information is at least partly occluded from the input viewpoint;

- creating output pixels of the output image by:

transforming each input pixel to a transformed input pixel, associated with the output viewpoint, as a function of the input pixel depth;

creating the output image based on the transformed input pixels, using hidden image pixels for filling de-occluded areas and for at least one pixel position adjacent to the de-occluded areas for preventing ghost line artifacts, caused by transformation of the pre-filtered input image; and

providing the output image for subsequent rendering.

14. A computer program product which program is operative to cause a processor to perform the method as claimed in claim 13.